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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,942	08/10/2001	Yoshio Satoh	21.1966-CRE-C	6889

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EXAMINER

SUMMONS, BARBARA

ART UNIT PAPER NUMBER

2817

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/925,942	SATO ET AL.	
	Examiner	Art Unit	
	Barbara Summons	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/24/03 (amendment) and 12/01/03 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6 and 22-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,6,22-33 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 07/965,744.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s): _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

REISSUE/DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/24/03 has been entered.

Withdrawn Claim Rejections - 35 USC § 102

2. Regarding the prior rejection of claim 34 as being anticipated by Tabuchi et al. EP 0 422 637 A2 (cited by Applicants), the Examiner agrees with Applicants' arguments that Tabuchi et al. teaches away from having all of the resonators of its ladder filter formed on "a single piezoelectric substrate" as now recited by the claim.

New Grounds of Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hikita et al. U.S. 5,115,216 (cited by Applicants on IDS paper no. 4 page 4 of 9) taken in conjunction with Hikita JP 59-158117 (JP '117).

Figs. 1 and 3 of Hikita JP '117 discloses a band-pass filter (Fig. 2) having a common signal terminal (i.e. the antenna terminal) and plural pairs of band-pass signal terminals 4/Tx and 5/Rx and the ground associated therewith (see Fig. 3), comprising: a pair of surface acoustic wave (SAW) filters 2 and 3 each having respective pass bands and pairs of input/output terminals (e.g. 4 and 5 and the grounds associated therewith on the lower sides of interdigital transducers 10/12, and similar for the antenna side of the filters).

However, Hikita JP '117 does not show at least one of the SAW filters 2 and 3 comprising SAW resonators connected in a multiple ladder structure on a single piezoelectric substrate.

Hikita et al. U.S. '216 discloses SAW ladder filters (see Figs. 1 and 4) comprised of SAW resonators formed by series and parallel arms (best seen in

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Fig. 4), and clearly shows the pairs of input/output terminals (1/1' and 2/2').

Although Hikita et al. U.S. '216 does not show a duplexer, which is a band pass filter having a pair of band pass filters with a common signal terminal and plural other signal terminals, Hikita et al. U.S. '216 does disclose its filter for use as transmitters and receivers in mobile phones (see col. 1, lines. 8-16) which one of ordinary skill would have known included duplexers.

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the duplexer/band pass filter of Hikita JP '117 (Figs. 1 and 3) by having substituted the SAW ladder filters of Hikita et al. U.S. '216 (Figs. 1 and 4) in place of the SAW filters 2 and 3 of Hikita JP '117, because such an obvious modification would have been the mere substitution of art recognized alternate SAW filters and because the SAW ladder filters would have provided benefits of less losses in the acoustic/electric conversion, better power handling, and better frequency characteristics than the transversal type filters in the JP reference as explicitly suggested by Hikita et al. U.S. '216 (see col. 1, lines 18-63).

Additionally, it would have been equally obvious to one of ordinary skill in the art at the time the invention was made to have modified the SAW filter of Hikita et al. U.S. '216 (Figs. 1 and 4) by having used two of them in a duplexer/dual SAW band pass filter because Hikita et al. U.S. '216 explicitly suggests using its filters in mobile phones (see col. 1, lines 8-16) which one of ordinary skill in the art would have known included duplexer/dual SAW band pass filters, as suggested by the exemplary teaching of Hikita JP '117 (Figs. 1 and 3).

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In other words, SAW duplexers with two SAW filters of different pass bands were known before the invention, and SAW ladder filters with pairs of terminals were known before the invention and were intended for use in such SAW duplexers.

Response to Arguments

5. Applicant's arguments with respect to claim 34 and the Tabuchi reference have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

6. Claims 1, 6, 22-33, and 35-37 are allowable over the prior art of record for reasons stated in paragraph 6 of the Office action dated 5/30/03.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (703) 308-4947. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



bs
January 9, 2004

**BARBARA SUMMONS
PRIMARY EXAMINER**